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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/926,592	09/04/97	YANAZA TU	S 0756-1717

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EXAMINER

WHIPPLE, M

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 03/05/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/926,592

Applicant(s)

Yanazaju

Examiner

Matthew Whipple

Group Art Unit

2813



X Responsive to communication(s) filed on May 14, 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- X Claim(s) 13-17, 19, and 20 is/are pending in the application.
- Of the above, claim(s) none is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- X Claim(s) 13-17, 19, and 20 is/are rejected.
- Claim(s) _____ is/are objected to.
- Claims _____ are subject to restriction or election requirement.

Application Papers

- X See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The drawing(s) filed on _____ is/are objected to by the Examiner.
- The proposed drawing correction, filed on _____ is approved disapproved.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code Serial Number)

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- X Notice of References Cited, PTO-892
- X Information Disclosure Statement(s), PTO-1449 Paper No(s) 2, 5, 7, 10

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DETAILED ACTION

1. Claims 13-17, 19-20 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Using photo-CVD to deposit a first protective layer to prevent plasma damage to substrate and then using plasma to deposit a second layer at high deposition rates is critical or essential to the practice of the invention, but not included in the claim(s) and is therefore not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

2. Claims 16 and 17 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It was not described in the original disclosure to deposit a phosphate or a boronsilicate glass film onto a SiO₂ film as claimed by applicant.

Claim Rejections - 35 USC § 103

3. Claims 13, 14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,668,365 (Foster et al.) in view of US 4,563,367 (Sherman) and US 5,470,784 (Coleman).

Foster teaches depositing nitride and psg films insitu in a plasma reactor (col. 3, lines 15-

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Introducing gases through electrodes is extremely well known in the art to provide a plasma, as taught by both Sherman (Figure 5, item 36) and Coleman (Figure 3). Further, Sherman teaches that insitu cleaning using NF₃ is very well known to dry clean chambers and increase throughput.

Therefore, it would have been obvious to introduce gases through an electrode to provide an alternative method of forming a plasma, as taught by both Sherman and Coleman. It Further would have been obvious to clean the chamber for the reasons give by Sherman.

4. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foster in veiw of Sherman and Coleman as applied to claim 13 above, and further in view of Jones.

Foster does not teach depositing layers of the same types or phosphate or boronsilicate glasses.

However, Jones teaches depositing a plasma oxide/phosphosilicate/plasma oxide stack dielectric (column 3, lines 1-10 and col. 5, lines 1-10).

Therefore, it would have been obvious to deposit such as dielectric stack as Jones insitu for the reasons given by Foster.

Allowable Subject Matter

5. Applicant's process of which is disclosed, but not claimed is allowable. It was not taught

primarily by the prior art, which layers are formed successively in the same chamber.

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Double Patenting

6. Claims 13-17 and 19-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of US 4,950,624 or claims 1-11 of U.S. Patent No. 5,629,245 or claims 7-16 of US 5,512,102 or claims 14-15 of US 4,857,139 in view of any or all of Sherman, Coleman, and Jones. The above cited references patented by Semiconductor Energy Laboratory claim subject matter very near the claims of the instant application except that the exact chamber cleaning gases or types of deposited layers or introducing gases through electrodes is not claimed.

However, Sherman, Coleman, and Jones are applied as above.

Information Disclosure Statement

7. The information disclosure statements filed 3 16 99 and 9 4 97 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The references not considered have been lined through. If applicant wishes to have them considered

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,529,474 teaches and depositing a layer and then cleaning the inside of the chamber using nitrogen fluoride (col. 1, lines 53-60).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Whipple whose telephone number is (703) 308-2521.

Charles A. Bandy

MH:W